

## **Greenhouse Management**

**Course Description:** This course is designed to prepare a student to manage a greenhouse operation. Students in this class will learn to produce various ornamental crops and food crops. An understanding of structures, crop selection, and growing systems will be explored. As populations continue to expand, the importance of food production in a climate controlled environment increases. Today's agriculture students are preparing to meet the needs of a growing world.

**Recommended Prerequisites:** Principles of Horticultural Sciences, Agriscience or Principles of Agricultural Sciences

**Recommended Credit:** 1

**Recommended Grade Level:** 10<sup>th</sup>, 11<sup>th</sup>, or 12<sup>th</sup>

**Course Codes:\*\*** A10 – **5117** or A12 – **5167**

\*\* Use A12 Course Code number for all programs. A10 should be used for 10 month programs only.

## **Greenhouse Management**

### **Standard 1.0**

**Demonstrate correct procedures for handling pesticides and using general safety practices in the greenhouse.**

### **Standard 2.0**

**Evaluate greenhouse structural types and components.**

### **Standard 3.0**

**Evaluate the properties of different types of soil media.**

### **Standard 4.0**

**Evaluate the different plant structures and functions of those structures.**

### **Standard 5.0**

**Describe proper methods of asexual plant propagation.**

### **Standard 6.0**

**Assess proper nutrition and watering techniques with greenhouse crops.**

### **Standard 7.0**

**Select greenhouse crops in greenhouse production.**

### **Standard 8.0**

**Demonstrate organizational skills and work ethics necessary in greenhouse production.**

### **Standard 9.0**

**Evaluate the control of common diseases and pests using integrated pest management.**

### **Standard 10.0**

**Demonstrate premier leadership and personal growth needed in a greenhouse management career.**

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### **Standard 1.0**

#### **Specify correct procedures for handling pesticides and using general safety practices in the greenhouse.**

Learning Expectations and Performance Indicators:

- 1.1 Follow industry safety standards in the greenhouse and work area.
- 1.2 Evaluate proper chemical/pesticide safety standards.
- 1.3 Assess the purpose of worker protection standards.
- 1.4 Compare the uses and types of chemicals used in greenhouse production.
- 1.5 Complete safety test with 100 percent accuracy.
- 1.6 Obtain the worker protection standards student industry certification.

### **Standard 2.0**

#### **Evaluate greenhouse structural types and components.**

Learning Expectations and Performance Indicators:

- 2.1 Identify greenhouse types based on their end wall shape.
- 2.2 Identify greenhouse construction materials.
- 2.3 Evaluate climate control systems.
- 2.4 Evaluate growing systems, including watering, fertilizing, and plant placement.

### **Standard 3.0**

#### **Evaluate the properties of different types of soil media.**

Learning Expectations and Performance Indicators:

- 3.1 Explain the major functions of growing media.
- 3.2 Analyze and explain the attributes of growing media.
- 3.3 Compare cost effectiveness of premix or personal mix.

### **Standard 4.0**

#### **Evaluate the different plant structures and functions of those structures.**

Learning Expectations and Performance Indicators:

- 4.1 Evaluate the importance of plant structures.
- 4.2 Explain the functions of plant structures.

### **Standard 5.0**

#### **Evaluate proper methods of asexual plant propagation.**

Learning Expectations and Performance Indicators:

- 5.1 Examine methods of plant propagation.

- 5.2 Compare the benefits of asexual versus sexual reproduction.
- 5.3 Evaluate the techniques of sexual and asexual reproduction of plants.

### **Standard 6.0**

#### **Assess proper nutrition and watering techniques with greenhouse crops.**

Learning Expectations and Performance Indicators:

- 6.1 Evaluate the benefits of proper watering of plants.
- 6.2 Explain the benefits of proper nutrition of plants.
- 6.3 Examine and distinguish how water pH interacts with plant growth.

### **Standard 7.0**

#### **Select greenhouse crops in greenhouse production.**

Learning Expectations and Performance Indicators:

- 7.1 Evaluate and explain the use of different greenhouse crop species for production.
- 7.2 Compare the advantages and disadvantages of common plants grown in greenhouses.
- 7.3 Identify common greenhouse plants.
- 7.4 Distinguish between annual, biennial and perennial plants.

### **Standard 8.0**

#### **Demonstrate organizational skills and work ethics necessary in greenhouse production.**

Learning Expectations and Performance Indicators:

- 8.1 Explain the skills to manage the complete production schedules.
- 8.2 Evaluate and explain work habits needed to create a positive atmosphere.
- 8.3 Evaluate the importance of recordkeeping.

### **Standard 9.0**

#### **Evaluate the control of common diseases and pests using integrated pest management.**

Learning Expectations and Performance Indicators:

- 9.1 Evaluate the effects of common diseases in greenhouse production.
- 9.2 Evaluate the effects of common pests in greenhouse production.
- 9.3 Assess and explain common methods of control of greenhouse pests and diseases.
- 9.4 Evaluate the effectiveness of integrated pest management (IPM) for controlling greenhouse pests and diseases.

### **Standard 10.0**

#### **Demonstrate premier leadership and personal growth needed in a greenhouse management career.**

Learning Expectations and Performance Indicators:

- 10.1 Discuss how the FFA has changed as agriculture has changed.
- 10.2 Develop public speaking skills needed in the greenhouse industry.
- 10.3 Conduct meetings, using approved parliamentary law.
- 10.4 Develop an SAEP, supervised agricultural experience program, for a greenhouse enterprise.